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of
The Chartered Surveyors' Institution

SESSION 1936-1937.

AT THE ORDINARY GENERAL MEETING

Held at the Chartered Surveyors' Institution, Monday, 7th December, 1936.

Mr. J. M. THEOBALD (President) in the Chair.

NEW MEMBERS.

The following new members were received by the PRESIDENT prior to the meeting and signed the Register:—

Fellows :

HARRIS, ALFRED, D.S.O.
THACKRAY, MONTAGU HAMILTON

Professional Associates :

ALFORD, Miss HELEN GEORGIANA LOUISE
ANDREWS, FRANCIS YARDLEY
BATCHELOR, ALAN RODERICK
BATTEN, ROBERT GEOFFREY
BRIGGS, CHARLES JOHN
BURLEY, LESLIE HARRY
BURNETT, GILBERT BRUCE DOUGLAS
COOK, BARNARD JOHN
COWIE, FRANCIS VANDOME
DENISON, WILLIAM BLETKYN
DOUBLEDAY, ERNEST HARVEY
DOWNER, CHARLES STUART

Eady, Tom
Eyles, Kenneth Charles
Flint, Deryck Hurst
Griffiths, Ernest John Lee
Harris, Regiland George
Hartley, Arthur Deryck
Humbert, Robert Adrian
King, William
Johnson, Gordon Milner Peter
Lacey, Alec Maple
Lambert, James Peter
McEwan-Waghorn, Arthur Herbert
Mason, Eric Robert
Monk, Reginald Harry
Parkhouse, Frank Charles Onslow
Peace, Rhys Trevor
Pinckney, John Bulteel
Pollicutt, Albert Henry Waldorf
Price, Richard Ernest
Quartermaine, Gilbert Frank
Rigby, Norman Openshaw
Settle, Sydney Albert
Smith, Sydney Robert James
Symes, Frederick Thomas
Walker, George Vincent
Weaver, Leslie Martin
Webb, Kenneth Albert
Westcott, John George
Willmot, Geoffrey
Woodeson, Norman Robert

A DISCUSSION took place on Mr. C. F. Stone's and Mr. F. E. Warbreck Howell's Paper entitled

TOWN AND COUNTRY PLANNING AS AFFECTING THE PRIVATE LANDOWNER.

Mr. C. F. Stone (Fellow), in presenting his paper, said that those of the members who had read the two papers in the *Journal* would appreciate the fact that they did not follow the usual course of the ordinary papers dealing with a specific subject or Act, but that they had been written with a view to opening up a general discussion on the practical aspects of the Town and Country Planning Act so far as the private landowner was concerned, and he did not therefore propose to take up time in reading the paper. He would run through one or two points which had been raised by Mr. Warbreck Howell.

It was difficult to give fuller details of actual cases, as Mr. Howell suggested, without referring to specific areas or authorities, and he thought that any case referred to in discussion should be treated as a hypothetical case.

As a matter of convenience he would refer to paragraphs as numbered in Mr. Howell's paper.

Paragraph 24.—He noted that Mr. Howell rather objected to his expression " naturally " in connection with the divergence of views of town planning authorities. What he had meant chiefly to convey was that five separate authorities could hardly be expected to have the same views with regard to the development of parts of an area of several thousand acres as the owners might have when considering the estate as a whole, and at the same time the views of respective councils were, he thought, also likely to differ with regard to areas forming parts of their outskirts, for instance, as to the site of a cemetery which might be suggested.

Paragraphs 25-31.—He could hardly avoid reference to the Restriction of Ribbon Development Act as affecting town planning schemes, and Mr. Howell admitted that difficulty, and in elaborating the matter showed, he thought, the extra trouble and delays which might be caused ; but the Act in question was, he considered, too involved to be brought in detail into the discussion.

Paragraph 32: *Access to public roads.*—He did not think his point was a very unusual one. There must be many cases, especially on the outskirts of towns and villages, where the owner of a considerable area not ready for immediate development was prepared to sell one or two plots, subject to restrictions, but without any definite intention of proceeding to sell adjoining plots and perhaps without any prospect at the time of finding further purchasers. It was very difficult to foresee the tastes of people looking for sites. His point was really whether a local authority could refuse access to one or two plots without insisting on a " lay-out " of adjoining land.

Paragraphs 34, 35.—The particulars of this case had been given to him by a fellow-surveyor, who had since sent him a revised note which presented the case more clearly and which note he would hand to Mr. Howell. He thought it raised a hypothetical case as to how far an owner was affected by a change of policy of the local authority, whether it was due to change of an official or otherwise. Mr. Howell gave some assurance as to the owner's right to compensation.

Paragraphs 36-43: *Development of adjoining owner's land.*—Mr. Howell dealt at considerable length with the sections and Model Clauses relating to that point, including the provisions mentioned in paragraph 39, which he had found very useful ; but in paragraph 43 he appeared unable to say either that an adjoining owner, in a case such as he had mentioned, could prevent his property being injured or receive compensation. The last three lines did not give such adjoining owner much consolation.

Paragraph 44: *Public and private open spaces.*—His example could be taken either as a case where an owner had submitted an owner's town planning scheme for a whole estate and had received licence to develop under an interim development order under the sanction of a local authority and not the Ministry of Health, or as a case where a local authority was considering its preliminary zoning and had made the proposal to sterilise the land instead of zoning for residential or other purposes as desired by the owner.

In that connection perhaps Mr. Howell would be good enough to give his opinion as to whether, in agreeing or assessing compensation, regard should be had to the effect, adverse or otherwise, on the value of adjoining land belonging to the same owner.

Paragraphs 47, *&c.: Agreements under Section* 34.—Mr. Howell dealt fully with that matter, and no doubt, as he stated in paragraph 51, each case must be taken on its merits ; but he might say that most of the cases with which he had dealt had been those of more or less purely agricultural estates, where the owners had been willing to preserve them as such with the hope that by making agreements with the local authority the properties adjoining their own could be satisfactorily zoned.

Paragraph 54, *&c.: Preservation of woodlands.*—This was a large subject, and would, he hoped, be dealt with by other speakers that evening.

In paragraph 61 Mr. Howell referred to his expression " felled " area." The actual wording in Section 46 (2) was " if any part " of the woodland is felled," and in the Model Clauses 48 (2) the words were the same, hence his expression a " felled area." He was glad to note that Mr. Howell agreed that compensation could not be excluded in respect of those provisions. He still thought, however, that those sections were likely to cause undue interference with the rights of owners unless very carefully used.

The members might remember seeing a notice in the *Journal* of the Institution asking them to give information to the Secretary as to the extent to which town planning authorities in their district were using the Model Clauses as to preservation of trees and woodland, and in particular with regard to the question of compensation.

He had seen some particulars of about thirty schemes, comprising corporation, district councils, county councils and regional schemes, and out of those there appeared to be three cases where there was a suggestion to exclude compensation. Some committees included the Model Clauses as drafted by the Ministry, and others included part only, while some proposed registering and others did not. Several committees omitted one clause, as they con-

sidered that they had sufficient powers under the private open space restrictions.

The replies which had been received showed that there was no uniformity at present, and it seemed desirable that there should be uniformity.

Rights of way.—Unfortunately his notes on that matter were not included in his draft paper as submitted to Mr. Howell, but he hoped Mr. Howell would deal with it.

He felt that he had made a very inadequate opening to a discussion on a subject which, to judge by the number of people present, was a matter of interest ; but there were many members present with more knowledge and experience than himself, and he hoped that fresh points would be raised with, perhaps, some conundrums for Mr. Warbreck Howell to solve.

Mr. F. E. Warbreck Howell (Town Clerk of Manchester) thought that most people had come to realise that they were trying to do something which they would have preferred their parents or grandparents to have done for them, and he found a very general readiness to co-operate on the part of landowners. That was an attitude of mind towards town planning which those present could, of course, very much assist to create, and he knew that they were so assisting. Nothing was more important than co-operation between the landowners and the corporation or the local authority. Indeed, it was very much to the benefit of the landowners that there should be co-operation, because it was going to mean that there would be ordered development for their estates and preservation of amenities.

Mr. Stone had referred to the house with large grounds which was going to be pulled down and redeveloped, and Mr. Stone rather complained that that was not stopped under town planning. Personally he did not see how one could reproach the local authority for that. The days of large houses—on the outskirts of cities at all events—with four to five acres of ground were passing or had passed. The people who could afford residences of that kind now went right away in the country, and all that the town planning authority could do was to plan that area for the development for which it was best suited in the future, which was, presumably, three or four or five or six houses to the acre, and the first man who came along and redeveloped in accordance with the scheme was going to make it a little uncomfortable, of course, for the other men who remained. But was not that inevitable in the process of change? He had always felt, too, in town planning

that the owners, under the Act of 1932, were really very well protected. He remembered the time, when the Act had been a Bill, that it had been his business to try to get a little bit more for the local authorities—not necessarily at the expense of the owners—and he had come to the conclusion that those gentlemen were very well protected. They had ample opportunities for appeal, and the compensation clauses were fair. He did think it was very important that owners should closely scrutinise a scheme in its draft stage. There were many things in a draft scheme which might be very important, and which, if not challenged at the draft scheme stage, might be found afterwards too late to be challenged. If that was so, then there was protection which the owner would have voluntarily omitted to obtain for himself.

There was an addition to the paper, which had been made by Mr. Stone after he had written his own paper, which related to rights of way. Mr. Stone thought that in the Second Schedule to the Act the word " private " appeared to make the matter doubtful. He did not know whether Mr. Stone had missed the fact that in paragraph 1, the first item in the Second Schedule, highways were referred to. The matter was to be dealt with by schemes. It might be a stopping-up or diversion of existing highways. In item 11 there was " extinction or variation of private rights of " way." Therefore he thought both those matters might be dealt with by the scheme. On the point raised by Mr. Stone he did not see how, under the interim development order, a public right of way could be closed. That must wait for the scheme. Mr. Stone queried whether a scheme could effect the closing of a public right of way. Personally he thought it could. It depended on the scheme, and, of course, it also depended upon the suspension by the scheme of those enactments which required one to go to the parish council and to the Quarter Sessions. But as long as the scheme was properly drawn, then in due course, in accordance with the provisions of the scheme, a public right of way could be closed.

Mr. Douglas Wood, o.b.e., f.r.i.b.a. (Fellow), said it had been stated that co-operation was very necessary. With that, of course, everybody would agree. He was sure, also, that everybody would agree that town planning was necessary. What those present wanted to do that night, he thought, was to make it clear that there were certain things which ought to be improved and altered in order to make a scheme work more easily. The question of co-operation in that respect was a most important one. He had cases in mind where that co-operation was not always easy to

obtain. He mentioned a site which everybody in the room knew, which had been bought thirty years ago for the purpose of building a large warehouse or store ; and a large warehouse or store, costing £50,000, had been built on that site of 7 acres. Two years ago the local authority had proposed to town plan that area, and they had zoned the site as residential. The site had been used for thirty years for a store, and naturally the owners had said " We do " not like this. We bought it for factory purposes. We have used " it for factory purposes for thirty years, and we want to continue " to use it for that purpose. If we cannot do that, the effect " will be that we cannot alter our buildings, and if we pull them " down we can only put up residential houses." That seemed to him to be a case where co-operation before might have been very beneficial.

Another case was where a local authority had proposed to zone an area 12 houses to the acre. The value of the land in that area was anything from £1 to £2 a square foot. Taking it, however, at 25*s*. a square foot, the value of the land was £48,000 an acre, and the value of the site for one house would be £4,000. That area at present had a density of 50 houses to the acre at least, and he could not imagine that any millionaires would go and live in the particular area he had in mind. The only alternative was that those concerned might be allowed to build 50 flats to the acre on the same land which was zoned 12 houses to the acre. That meant a ground rent for each flat of £45 to £50, and would mean that that area could only be developed for luxury flats. When he had pointed out to an interested local authority what a serious matter it would be, they had said " This has probably only been " done by some junior assistant, and will be altered." That, however, was not the point, because once it was on paper, if he or any other surveyor took plans to that authority and said " We " want to develop this with 20 houses to the acre or with a block " of shops," or whatever it might be, the authority would say " No, we cannot agree to that because we are proposing to zone " this 12 houses to the acre. It is true it is not settled yet, but " until it is settled we are sorry we cannot deal with you except " on the lines proposed." That meant interminable delay and " loss of money to the owner of the property ; in fact, it made it impossible to put a value on that piece of land until one had got an interim plan approved by the council. That might mean a long time and a great deal of delay.

He quoted the above merely in order to show two difficulties with which he had met in his own practice. He was sure there were other members who desired to bring further cases forward—not with a view of making things more difficult, but with a view

to showing how in certain matters co-operation could be advantageously arranged.

Mr. WALTER E. A. BULL (Fellow) said that Mr. Howell in his very illuminating opening address had let slip a remark which perhaps he had not quite intended. He had said that he was representing, on one occasion, the interests of the local authorities and had been seeking to get perhaps a little more for the local authorities—" not necessarily at the expense of the owners." He did not think Mr. Howell had really meant that ; but he must say from his own experience that there was a tendency on the part of local authorities to disregard the question of expense from the owners' point of view. It was quite understandable, but it was the owners' money which was at stake, and very often it was quite a difficult matter to safeguard the owners' interests. It was very largely a question of time. It was no exaggeration to say now that the development of land—he was thinking of urban areas—was becoming an exceedingly difficult and complicated matter, particularly in those cases referred to in the papers, where there was a separate highway authority to be dealt with under the Restriction of Ribbon Development Act, a town planning authority and a by-laws authority.

Co-operation was definitely needed between the various town planning authorities in and around London, as authorities in adjoining areas, especially in detail, held so many diverse and different points of view. In certain cases it was most marked, and had a definite effect upon the value of the land. For instance, very different views were held on the desirability of flats, with the result that in the case of a boundary between two authorities who held such divergent views, the value of a site adjoining the boundary would vary very considerably according to the particular area in which it was situated. Surely there should be co-operation between those two authorities so to agree the zoning in the various schemes that if flats were desirable in that area they might be worked together between the two authorities.

The views on other matters, such as building lines, varied tremendously, and they not only varied as between authority and authority, but they changed when the town planning assistant or the borough surveyor changed with an area. He knew of cases where, at the beginning of the development of an estate, certain building lines had been permitted. During development the surveyor had changed, and for the rest of the estate quite different building lines had had to be adhered to.

Mr. DRYLAND HASLAM (Member of Council), who spoke from

the point of view of a countryman largely interested in agricultural estates, considered that the difficulties that arose in respect of such estates were considerably greater than those which arose with reference to lands nearer the towns. He was thinking more particularly of three fairly large estates where there were mansion-houses, a considerable area of parkland, home farms and other farms. The owners did not want to sell any part of their estates while they were alive. The question of planning or developing the estates had arisen, and the owners had all asked that they should be left in peace in the enjoyment of their estates just as they were until they died. It was proposed, therefore, that the house and the land around it should be zoned as a private open space and all the rest of the estate as agricultural. The difficulty was, how could one advise the owners? Although it might be all right while they were alive, their successors to the estates might want something very different. Those concerned had been able, by means of Section 34, to get over the difficulty in those three cases (which were in three different town planning areas) by coming to an agreement with the local authorities under three headings, namely, first of all that, in the event of the mansion-house being destroyed by fire, or so damaged by fire that in the opinion of the owner it was not worth rebuilding, the whole question of town planning was to be reconsidered ; secondly, the matter was to be again opened for consideration on the death of the owner if his successor gave notice within twelve months of that date of his desire to have the matter reopened ; and, thirdly, that in any case if the owner of the estate for the time being desired to have the matter reconsidered at the end of any ten years, it should then be reconsidered. That got over the difficulty of the owners of those agricultural estates who did not want to have any alterations made at present, and it helped the local authority in that they had not to make up their minds at the present moment how that land was to be zoned.

Major Nelson Rooke (Fellow) agreed with the last speaker that perhaps the greatest difficulty of an agent for a country estate was how to advise his chief to answer the question " Will " you schedule your estate, or a large part of it, as a permanent " or temporary open space?" because the owner might be a tenant for life who had only limited rights, or he might be a man who was not, perhaps, finding things too easy financially, and there might be a hope, if not of ordinary building development taking place, of perhaps minerals being found, or some circumstances arising which would make it worth his while to try to make other use than merely park use or agricultural use

of his property. It was most difficult in a case of that sort to give advice. Once the principle of leaving it as an open space was admitted, it would be most difficult ever to call it back again in order to use it for something else. At any rate it would not *look* nice later to take out of the schedule for an open space property which had been used as such under a temporary agreement.

With regard to trees, he agreed with Mr. Stone that it was dangerous to extend too far the principle of scheduling trees that should not be felled. In some districts it had been done to too great an extent in schemes which had been prepared by authorities. There were trees and there were groups of trees which no one would like to see felled—as instances, Chanctonbury Ring and Kett's Oak ; but, speaking generally, he thought it ought to be left to the owners of trees to say whether or not they should be felled and whether or not they should be replanted. There was the question of dangerous trees, included in a schedule. Who was to know always when a tree was dangerous? There the point arose as to who was going to insure the risk to persons using roads, and so on, against the falling of branches. Should not the authority who scheduled them, and not the owner of those trees, pay an insurance premium in order to see that if passengers on the roads were damaged, as had sometimes been the case, they were covered by insurance?

With regard to the condition, that the Forestry Commission should decide whether or not the replanting—which was supposed to be done if areas scheduled were felled—should be done in a manner in accordance with good forestry, he agreed that the Forestry Commission were very experienced and knowledgeable, but there were points upon which practical foresters and the Forestry Commission differed. He would give one example. In an area where oak trees grew very much better from acorns than from oak trees transplanted, the Forestry Commission withheld a grant if acorns were planted and not oak trees. That was the sort of thing upon which an owner and the Forestry Commission might differ.

One point which he would like to emphasise in the drafting of schemes under the Town Planning Acts was the unnecessary sterilisation of land which would be otherwise productive of foodstuffs. Perhaps he had a " bee in his bonnet " about foodstuffs, but he did not think there was a more important subject than having available, and making the best possible use of, every acre of productive land ; and he thought it would be the greatest pity if every scheme in its preparation did not keep that vital question in mind.

He did not know whether there existed a central map embodying all the stages of all the schemes in preparation throughout the country. Such a map should be readily available for anyone to go and see at any moment in order to try to correlate his own ideas as his own particular part of the scheme with those of others. It had already been mentioned by Mr. Bull that the situation arose of two different authorities preparing two different schemes, the details within those schemes varying very widely. There might be a large estate in two different authorities' schemes. Apart from that, one might wish to see how the whole of England was going to be laid out as a town and country planned scheme, and unless one could turn to some central map and be able to study it at leisure, he did not feel one was able to help to the best possible extent. He would be glad to hear from Mr. Howell whether such a map was in view or whether it actually was in being.

Mr. P. J. Waldram (Fellow) said the papers dealt so exclusively with country problems that one who had practically no experience of them spoke with considerable diffidence. There were, however, certain fundamental principles which applied equally in country problems as in the problems of built-up areas. The Town and Country Planning Act was remarkable for its unexpected common-sense, even in this common-sense age. They had for centuries, as independent self-governed communities, been living under local customs and by-laws of their own making. Yet they had, as communities, not only complacently allowed their communal rights to reasonable amenities to be filched by selfish individuals, but they had actually been at pains to find specious excuses for the robbery. If a landowner ruined a fair countryside by the most selfish development, it was immediately pointed out that he had materially increased the rateable value of the locality by his enterprise. If property-owners in towns combined by means of reciprocal agreements to overbuild hideously their town sites, condemning thousands of town workers to penal servitude in perpetuity in those dark, airless, sunless holes which were permitted by feeble building laws, they were said to be increasing the existing opportunities for making money, and were therefore deserving of praise rather than of execration. The Act had changed all that. Without in any way interfering with the freedom of the property-owner to do as he liked with his own, it put a restraint, very long overdue, on his power to injure irrevocably that part of his nominal property which he merely shared with his neighbours. Although lawyers, in order to simplify their work, had decreed that a freehold extended from the centre of the earth to the heavens, the light and air above buildings was shared by all, and lawyers had

been forced to embroider their simple formula with imaginary lost grants of easements of light and air, as well as support, and much case law on mineral rights, underground water, &c.

The Act was a belated reminder to all owners of real property that even a freeholder was, after all, only a temporary trustee for posterity, a mere tenant for life of an entailed estate, under a strict obligation not to injure the interests of successors. Buildings lasted for centuries, and he had no right to line his pockets by selling for ever the health and comfort of future generations.

Prior to the passing of the Act even a right to such a necessity of life as reasonable light and air had been the prerogative of the favoured few, who had happened to enjoy rights under the Prescription Act which their predecessors in title, or their landlords, had not sold for cash.

Certainly Building Acts approved by Parliament, or building regulations approved by the Ministry of Health, did not afford reasonable amenities. Let one go into City offices opening into those insanitary pits, miscalled light wells, or even walk down Lombard Street, or down some of the streets of any busy town. The Act secured, or endeavoured to secure, those rights to everyone for the first time in history since the wise old Roman law of light had degenerated into a legal appanage of property, a sort of glorified tenant's fixture. With what keen interest, therefore, had one opened the December issue of the *Journal* to see what would be said about that great reform by a town planner and a town plannee! With what keen disappointment had one found that both authors calmly avoided the awkward problems involved in the administration of the Act in built-up areas, although Mr. Stone certainly did suggest that other members should raise points about it, presumably in discussion!

One would at least have thought, however, that light and air were more important than trees.

He knew Manchester very well, but he could not recall any area in the Manchester district which would occasion the Town Clerk much trouble over forestry problems. He trusted that the absence from the paper of the Town Clerk of Manchester of even any mention of light and air was solely due to the fact that the papers were, in spite of the titles, intended to be confined to country problems ; and that the view in Manchester was not that which one so frequently found amongst local councils, namely, that that part of the Act which endeavoured to preserve what little light and air was left in overcrowded towns really did not matter ; the light was so poor and the air so polluted that the use of artificial light (from municipal sources) and mechanical ventilation by conditioned air (which was good for trade) should rather be encouraged.

The present methods of administering the provisions of the Act as regards restriction of buildings was so anomalous that he feared that great trouble would arise. The Model Clauses of the Ministry merely referred to obstruction to light and air in the terms of permissible angles of obstruction. Obstruction to light and air consisted, however, of breadth, height and distance ; and the ratio of two of those factors to each other, entirely neglecting the third, was no criterion of obstruction. In two cases which had recently come before him a very large local authority had objected to one part of a building scheme quite properly, under the published rules. They had also quite rightly under the same rules approved of the other half. Yet the ground of appeal to the Ministry in each case had been that the amount of light in the portion disallowed was just twice that which would obtain in the part allowed and in neighbouring buildings affected by it. It was perhaps unnecessary to say that the decisions were altered before appeal. No sufficient attention had up to the present been given to this very important matter, which was at this moment affecting all town values to an enormous extent. The absence of any reference to it in the paper of the Town Clerk of Manchester recalled to his mind the fact that he had had to spend quite a considerable time in Manchester with reference to the proposed erection of a building some 26 storeys high within sight of the Town Hall. That had been a case where it did not harm anybody. The building was narrow, and there was plenty of light and air beside it. That introduced a point which he thought was a novel one, and which had been developed by a foreign architect recently at some length at the Royal Institute of British Architects, namely, that when one came to lay out any site for a certain population the greatest amount of light and air was obtained, not by low buildings, but by concentrating the available accommodation into the highest buildings possible with the maximum space around them. The trouble was that when one person was allowed to erect a tower in a crowded area, there were immense difficulties in preventing his neighbours from doing the same thing, and then one very soon got the same conditions as existed in Manhattan Island, New York, where on a midsummer sunny day one could find 20 out of 40 storeys using artificial light. Zoning laws in America since introduced had been extended, but not from any altruistic reason. They had been urged by the real estate surveyors who had found that ordered development, especially in built-up areas, raised values instead of reducing them.

Captain E. H. Mostyn, F.L.A.S. (Visitor), heartily agreed with Mr. Howell when he stated that this was very largely a question

of co-operation between the local authority and the owners in the area concerned. He had just carried out a very big town-planning scheme in which he had been leading for the owners, and in which the county council had been against him. He had never had more pleasant work to do, and he had never got things going more smoothly. Both sides had seen each other's views, and were now practically ready to go to the public inquiry on the scheme.

That brought him to the next and, he thought, most outstanding point which had not yet been raised but which everybody had hedged about, and that was that the most important thing in town-planning at the present moment was to get finality in the schemes. Until the schemes were finally fixed nobody knew where they were. He had had the sales of property absolutely hung up for twelve months because a scheme was not fixed, and he was certain that most of those present had had a similar experience.

There had been a great deal of talk over Section 34 of the Act with regard to agreements. He desired to warn the members that the Model Clauses on that particular point were bad in law. There was no authority whatsoever in the Act for joining trustees, as the Model Clauses attempted to do. The wording of Section 34 allowed the owner, so far as his interest was concerned, to bind the land ; but there was no authority which could bring in the trustees, nor was there any authority in the Settled Land Acts which enabled trustees so to bind themselves ; and he had it on the very highest authority that that view would be taken in the future.

Lastly, as to woodlands ; here, again, there were two sections in the Act—one relating to groups of trees and individual trees, and the other relating to woodlands. He thought it was the intention of the Act that special trees and special small groups of trees—not woodlands—were to be dealt with and possibly preserved for ever, as, for example, Chanctonbury Ring. With regard to the other section relating to woodlands, the words as used in the Act as regarded felling were " felled area "—where any portion of woodland was felled. They did not relate to individual trees felled. He thought the position ought to be fairly safe if the local authority was reasonable in scheduling only those woods which were necessary for the amenities of the neighbourhood and in scheduling single trees and remarkable clumps.

Mr. Thomas Cook (Fellow) remarked that no one would quarrel with the view held by Mr. Howell that the Act was in principle, and in its aims, a very good Act. Whether or not, however, it was a good Act in practice depended entirely on its administration. If it was well administered it was a blessing. If it was maladminis-

tered it was a curse. In London it was an unmitigated curse. He had the misfortune to practise in London, and in no given instance could one get any guidance whatever before one prepared a scheme. If one was lucky one might get an answer in six months. One got the statutory answer in two months, which was regarded as a minimum and not as a maximum, and, having got that, one then found the answer hedged about and one had to start again, and, as he had said, within six months, if one was lucky, one might proceed with one's scheme. But the Act had in it the seeds of very great evil. It might in many cases be used, either deliberately or by accident, to sterilise an area, and, what was more, it could be used to destroy land values. The effect of the Act was to depress land values. Personally he found it quite impossible, and no doubt other surveyors did too, to advise their clients upon the value of any land. They could not possibly tell what views the London County Council might have.

He had been very much struck with paragraph 22 of Mr. Howell's paper, in which Mr. Howell said that in Manchester "an "explanatory memorandum in regard to interim development has "been prepared and is distributed gratis." He imagined, therefore, that any person who required guidance got it, but he defied anybody in London to get any guidance whatever. He would give one instance. The London County Council had adopted their resolution a very considerable time ago. Long after they had adopted their resolution they privately, so far as any surveyor in London was concerned, adopted a rule to the effect that in any building containing flats there should not be more than 10 per cent. of single-room flats. That was a general rule, and it was made applicable and, so far as he knew, was intended to be applicable from Poplar to Portman Square. That, he suggested, was a deliberate misuse of the Act. In fact, the matter had gone on appeal to the Ministry, who had thrown it out, but that had not prevented the scheme of which he was speaking being delayed for twelve months at immense cost.

Generally speaking, he thought surveyors might attribute to themselves every desire to co-operate to the best of their ability with every local authority and with every administrative authority, but in regard to London it was hopeless.

Mr. P. W. Macfarlane (Professional Associate) entirely disagreed with the last speaker's statement as to town planning control in London. As one who lived in Hampstead he, with his neighbours there, had found that planning control had been a complete godsend, and if a vote of Hampstead residents were to be taken it would be found that 95 per cent. were in favour of it.

Town planning did not lead to sterilisation and to the depression of land values ; it led to their stabilisation, and possibly to the transference of land values, in some degree, from one area to another.

He desired to deal with a few matters raised by Mr. Stone. With regard to the alteration of boundaries, where a rural area came into urban areas, it was appreciated that there might be difficulties there at the moment, but personally he thought that in the long run it was to the owner's advantage because public services were generally supplied more liberally than by rural areas, and those, in turn, tended to increase the value of the land and to promote development.

With regard to lay-outs for land fronting on a highway, a planning authority could, under town planning, call for a plot plan of any land likely to be affected by one's activities. He imagined, however, that if Mr. Stone came forward with a guarantee that he was not likely to put up more than, say, five houses on 500 feet of frontage during the next ten years, with a view to testing the market, and then they were set well back and land reserved for a future service road, that would probably meet the highway authority's wishes.

With regard to rights of way, there was no possible doubt that those could be closed by the scheme without having to go to Quarter Sessions or to the parish council. At the same time he believed it was the Minister's view that, unless there was an alternative right of way shown in the scheme, stopping-up would not be approved, and, of course, it could not come into operation until the alternative right of way was constructed. At the same time he imagined that, although it was not necessary to go to the parish council, if the parish council objected very strongly it was doubtful whether the Ministry would approve a proposal for stopping up a right of way.

Something had been said about changes being made with a change of surveyor. One appreciated that. It did sometimes happen. But changes which came about from that fact were nothing compared to the changes which sometimes took place owing to a change of ownership of the land!

With regard to delay, he himself had found a considerable delay in scheme preparation due to new owners wishing, wholesale, to reopen negotiations. Again, after prolonged negotiations and the getting together of as many owners as one could and getting them all into line, one found that one owner had died and that the whole thing had to be reopened. The new owner said he had not the slightest sympathy with the scheme, and one had therefore to start all over again. It was a fact that different

town planning officers had different views, but so had owners. One owner would accept one building line which he thought was essentially reasonable, while the owner on the other side of the same road thought the exact opposite. Human nature did vary, and one got variations whichever side one was on.

With regard to tree preservation, he agreed with Mr. Stone that it was no good being too sweeping in the matter. On the other hand, the section in the Act had been put there with a view to its being used, and personally he thought it was reasonable to use it.

He could not quite see to what Mr. Stone objected in the scheduling of the remainder of the 150 acres of woodland as a preserved area. Personally he should have thought the fact that it was near a town was one feature which suggested its great desirability for preservation. One wanted to mould town and country into one as much as possible.

He could see, also, that possibly there might even be betterment, and not compensation for one of those preservations. Supposing one had a very fine residential area and there was a very foul factory area not far away with a fine wood separating the two. It might be complete ruination to the amenities of those houses if that wood was felled. Hence he thought that if the local authority was going to schedule that wood it was reasonable that they should expect the owners to contribute something in the way of betterment for its preservation.

He sympathised with Mr. Stone on his redevelopment proposal in an old area. Personally he thought that planning had not only to look to the future but had to give a reasonable degree of stability for the present, and if Mr. Stone could get the larger owners to come together and offer to agree to a low density, he thought that that would have a considerable influence with the local authority.

Mr. J. P. Rhys (Fellow) thought that the difficulties of a town planner in preparing a scheme were not sufficiently realised. One of those difficulties was that he had to mitigate to some extent, if he possibly could, the bad effects of the break-up of large estates. Taking the parishes and the rural districts which came within large ownerships, one always found a degree of preservation which was entirely lacking where an estate had been broken up. To a certain extent that applied also in large cities. One of the primary duties of the town planner, therefore, was to attempt to replace the control which was effectively exercised by the large estates, but here his difficulties were great. He had not the absolute power possessed by the large landowner, and he was to a certain extent

controlled by the local council and which naturally, as it consisted of many individuals, reflected the views of those various individuals. The planner had therefore to start out with the idea that he must, so far as possible, conserve existing land values, and secure that the increase of land values in the future was in the right direction. He had to avoid the two difficulties of compensation and betterment. Personally Mr. Rhys felt that the provisions for compensation and betterment should be used for the purpose of counterbalancing the claims of both the owners and the councils, and that the most successful planning scheme was one in which there were no claims on either side. If the planner took care to conserve land values and to provide for proper development in the future along the right lines, he was going to get increases in rateable value—and there the local authority secured their portion. He was also going to get an increase in land values—and it was here that the owner obtained his portion.

The planner started off with the difficulty that when there were owners with estates of any size the outcome was more or less of a jigsaw which had to be fitted together, and when it was completed it might very quickly become disarranged by something happening to the particular owners concerned. If there were not a number of large owners the planner had to settle all the points himself ; and although it might be said that in rural areas this was easy—the greater part of the area being agricultural and some portion of it therefore being suitable for building development at a very open density in the future—when he came to deal with towns he was confronted by a most extraordinary series of unexpected problems. In the first place he had to decide where he was going to put the business area ; over what area the shopping centre should extend, and whether the shops should be concentrated at various intervals or whether they should be spread along the main thoroughfares. Then there was the question of what was necessary in the way of accommodation, having regard to the fact that there was already a very heavy traffic along the road. Again, when the planner came to consider the question of allotting the buildings, he had a vast area covered with houses—some of which were worn out—and other areas with comparatively new houses. He was planning a long way ahead, and he had to decide whether to plan to a certain density or whether simply to say "According to the use of the property built, so shall "the builder cover a certain portion of the site." That was not easy. Coupled with that he had to decide the heights of buildings and to remember in that connection that every street had two sides with owners on each side, and that there might be an entirely different character of development. It was most

extraordinary the way in which the small type of houses abutted on the more expensive type of houses.

The present time was witnessing a recurrence of the tremendous development of flats, resulting in the same problems as before the War. Flats were being built in residential areas and in business areas. All sorts of problems were arising as to relative heights, and as to the way in which various adjoining owners might use their property. On the one side there was the plea of the owner who wished to have his two-storey dwelling-houses remain as they were ; on the other side there was the owner who desired to erect very high buildings. Here lay the explanation of the rather infrequent appeals. Questions as between a building owner and a non-building owner arose as to the erection of blocks of flats, damage to amenities, traffic difficulties and the height to which the buildings might rise.

Mr. Rhys concluded by saying that he had indicated the above-mentioned points as ones exercising the planner's mind in dealing with the problems of the situation.

He would also like to remind members that all one did in preparing a scheme was to try to give effect to the 1932 Act, which expressly authorised the planning of built-up areas subject to certain conditions, and it was Parliament that had made this possible, not those responsible for preparing schemes.

Mr. Frank Hunt, C.V.O., said that personally he had not come with any intention of speaking since he knew nothing about the subject. He could, however, move a vote of thanks to the two authors of the papers—papers which had resulted in quite an interesting discussion. He had been very interested in what he had heard, but on reading the papers he had felt a little disappointed that they had not quite pursued the path which he expected they might have done, namely, to raise in a little more concrete form some of the difficulties of a town planning scheme. Mr. Rhys, in his admirable speech, had indicated them in a little more concrete way than the two papers had done. Mr. Rhys had also pointed out—which so many people forget—that if there was any complaint to be made about town planning and the addition of control imposed by town planning on the built areas under the 1932 Act, it was to Parliament that that complaint should be addressed and not to the town planning authorities. Parliament had taken good care to ensure that existing rights were fully preserved and gave endless opportunities for appeal. A town planning authority was not a cock on its own dung-hill, because every owner who was dissatisfied over a decision of the local authority had the right to appeal to the Minister of Health for a decision. To talk, as some

people did, about the "curse" of town planning to London was nonsense. It would be much better if all those present kept clearly in their minds that sensible town planning was merely good estate management on the largest scale. Everything would be simplified if all the property in a town-planned area was in one ownership. The real trouble arose when the planner came across a multiplicity of owners, and when one man said "I would like to have a factory "there, and if you do not allow me to put a factory there, you are "doing me unmitigated harm." Under one ownership such a man would never dream of doing anything of the sort.

He did not want to go over the whole of the discussion that night. He had learned quite a lot from it, but there were two or three things on which it seemed to him the Institution might hope for future discussions. Reference had been made to the sky-scrapers in Manhattan Island. He had yet to learn that there was any economic justification for a sky-scraper. The reason for sky-scrapers in New York was pure advertisement. The Americans themselves admitted that there were certain elements which they had never foreseen when deciding upon such a policy. That, thought Mr. Hunt, would be a good subject for an evening's discussion. The next point indicated was: "Does control under "town planning affect values?" Personally he begged to express the view that town planning, properly administered, did not affect value ; but other people held a different view. With reference to the speech of the gentleman who had referred to the "curse" of the administration in London, he was not proposing to attempt to deal with any cases with him. He thought, if he might say so, that it was that gentleman's ignorance which had prompted him to make such a remark ; because if it were not due to ignorance he would have to say that it was wilful perversion.

Mr. Francis Peter (Member of Council), in seconding the vote of thanks, congratulated the two authors on having had a very lucky escape, in view of the fact that he had not heard very many questions addressed to them. He himself wanted to ask one which, perhaps, should be addressed to Mr. Stone—first of all, because Mr. Stone was an "agricultural labourer" like himself, and secondly, because in Mr. Howell's paper he had put, in paragraph 11, "the preservation of amenities" as the last thing in his list of items with which the Act should deal. The point which he himself had in mind was the following. He found that the Housing Committees of rural district councils were inclined to be driven off the main roads by the Ribbon Development Act, and were now making their ways into the by-ways and hedges. The question he wanted to ask was, when Mr. Stone made an agreement with a

town planning authority, had he found any means of controlling the type of architecture adopted for rural housing?

The vote of thanks was then put and carried by acclamation.

Mr. WARBRECK HOWELL, Town Clerk of Manchester (Visitor), in reply said that Mr. Douglas Wood complained of an area of seven acres which for thirty years had been covered by a store and which was now zoned for residential development. Another speaker had complained about an area which the owner desired to use for a block of flats and which was in fact zoned for houses 12 to the acre. Whether or not that was right zoning might be a matter of opinion. After all, those things were matters of opinion, and if anyone objected to the proposals of the local authority he had an opportunity of going to the Inquiry, or—if it was under the interim development order—of going to the Minister of Health and obtaining a decision as to whether his point of view was right or whether the local authority's point of view was right. Nothing more equitable and satisfactory could be invented. He did not think there was any cause of complaint in that. His experience was that the Ministry of Health were always very anxious to get appeals quickly decided. Every letter which he got from the Ministry of Health—and there was a standard form—called attention to the fact that the Ministry regarded such matters as urgent and desired them to be attended to immediately ; and it had granted an organisation which did, he thought, get through the business very well indeed.

Mr. Bull had made a reference to the desirability of co-operation betwen local authorities. He entirely agreed with him. It was essential. There were ignorant authorities as there were ignorant owners, and they had to be dealt with. There had been a good many joint town planning authorities established up and down the country, which was an excellent development. In his own district there was a series of joint authorities with a large advisory authority over the whole of them covering an area of fifteen miles round Manchester, and very little difficulty was experienced between the local authorities in that area. He thought that was an excellent development and one which certainly was of great assistance to the landowners. The Ministry of Health were very much in favour of those joint authorities, and it might very well be, if it was not too late, that those present could help to get some of them established.

A question had been asked as to whether there was a central map in London showing all the schemes at all their stages. As far as he knew, there was not such a map. It seemed to him it would

be a colossal task to plan a map of that kind and to keep it up to date because it would have to be continually kept up to date. He should think it was doubtful whether the suggestion would be adopted.

Mr. Waldram had suggested that they in Manchester had no possible experience of forestry. Mr. Waldram could not have heard of what was the finest piece of town planning in England, namely, the Manchester Wythernshawe Estate, including an area of 5,000 acres of absolutely virgin land, which Manchester had included a few years ago in the city, and through which had been driven a very beautiful parkway 300 or 400 feet wide preserving the trees and flowers and shrubs. It was in contemplation to carry that parkway from a radius of 14 miles from the centre of Manchester as far as possible towards the city. All the individual features of the estate had been preserved as far as possible. Manchester had had some experience of forestry therefore in that connection, and he would add that they had a standing order of the City Council to the effect that a tree which was fit to stand, and not old, must not be pulled down without the matter being brought specially to the attention of the Council.

Captain Mostyn had spoken of the desirability of finality to the schemes. If he meant that it was time they were prepared and settled he agreed with him, but it was a very big task indeed, involving difficulties at all stages. Manchester was pressing on as much as possible and they hoped to get their scheme out very soon, but he thought one had to be actually engaged in the administration to know how difficult it was to get on with the preparation of a scheme. However, he quite agreed that it was time and that it would not do any authority any harm to be "gingered up."

Mr. Stone, in reply, said that when he had been asked to write the paper he had stipulated that he should not be asked to talk about built-up areas, because he knew nothing about them. His business was that of a country land agent, and it was only points arising out of his own experience and those of his friends which he had brought forward. Therefore his paper had been confined very largely to the rural areas, and in that respect it might have been disappointing to a good many London members.

He was still not clear on one point, and that was the question of rights of way. He understood Mr. Howell to say that a diversion agreed to under a town planning scheme would become law when the scheme became law, but that it would still have to go before Quarter Sessions.

Mr. Howell said it would not have to go before Quarter

Sessions as long as the scheme suspended the present provisions of the Highway Act, which required that a diversion must go to Quarter Sessions.

Mr. STONE: It would in effect delay it?

Mr. HOWELL: You would get it provided in your scheme without the necessity of going to Quarter Sessions.

Mr. STONE (continuing) said that with regard to Mr. Peter's remarks, he would say that those were not large schemes. The largest estate was about 2,000 acres, and in the schemes they were not dealing in particular with the adjoining properties. They zoned certain lands for building if they wanted them. The rest would remain purely agricultural. There was a clause in the agreement to the effect that when the council were zoning adjoining land they would consider the character of that particular land; but they made no stipulation as to avoiding housing sites or looking into elevations, and that kind of thing. They would certainly do so when application came for land on their particular estate. There was further no question of bringing elevation, &c., under the scheme under Section 34.

Paper No. 573.

THE NATION'S FOOD SUPPLIES IN RELATION TO DEFENCE.

By Major Nelson Rooke, F.L.A.S. (Chartered Surveyor).

Paper to be read at the Ordinary General Meeting of the Chartered Surveyors' Institution on Monday, 11th January, 1937.

General.

" The sphere in which the chartered surveyor acts is one " which has already greatly expanded, which is even now " not stationary, and which certainly cannot contract." In these words Mr. Winston Churchill expressed the many aspects of national life dealt with by the Chartered Surveyors' Institution. With a membership of some 9,000 reaching to the outskirts of Empire, and with strong representation upon important national and international organisations, no excuse is needed to review briefly the wider causes which lead us to the subject matter of this paper.

Certain unpleasant broad issues present themselves to-day, and the first of these is that " the War to end War " has not necessarily succeeded in that aim.

It is clear, secondly, that the League of Nations, designed to settle peacefully international disputes, is, as at present constituted, incapable of doing so.

Thirdly, two great opposing social forces have appeared in Europe—Communism and Dictatorship ; and these, like huge positive and negative terminals, when they meet cause explosions which one day may shake civilisation to its foundations.

Further, development of Eastern and of " coloured " races, so far as Western ideas of development are concerned, is so nebulous a factor that it is impossible to foresee what effect it may have upon the world, our Empire, and in particular upon our island. We have therefore to accept the position that, for the time being at any rate, it is still a case of " each nation for itself and the devil of " unpreparedness take the hindmost."

To be prepared in the present days of unprecedented invention, particularly invention in the sphere of war, is not merely to have adequate military forces—vitally important as these are—but to have available against emergency enough of supplies to feed and to keep fit the nation itself.

It must be realised now that what was once an advantage —our " splendid isolation "—may have changed to an " icy separation " in which we may, unless we look to our " home fires," be frozen into a very awkward corner through very lack of means to maintain our national body heat. This is not an alarmist statement, or in any case is intended to be only sufficiently so to ensure that our house may be put into good order while there is still time.

There is fortunately a two-edged implement here to our use, for, while we plan for food production in preparation for defence, we at the same time serve the nation by stimulating production within it, thereby helping all directly or indirectly concerned.

Though the Institution and its individual members have had this important matter much in mind for some time past, it was not, I believe, until the spring of last year that it took tangible form in its proceedings. In the Institution's *Journal* for April, 1936, Mr. Cloudesley Brereton drew attention in a brief article to the importance of the question. In May of that year, at an Agricultural Committee Meeting of the Institution, a short memorandum (see Appendix) outlining the subject was submitted and carefully discussed. Much investigation and consideration has since taken place.

Other organisations too and a large number of indi-

viduals have recently ventilated the matter in speeches and in the Press, and it has been a subject for debate in both Houses of Parliament. It has therefore come to be regarded as one of the most pressing concerns of the moment.

It is of supreme importance that every thinking person in the United Kingdom shall realise the vital necessity for an adequate food supply. Every man and woman, whether in town or country, should reach a point in thought when each acre of land and what it can produce is a matter of jealous and personal concern to him or to her. Then some sacrifice may, if required, be made and the soil of the country be brought to fuller production.

Germany has realised this necessity long since ; Italy also ; and France is well on the way to a programme of full productivity from her land.

If there is a failure now to realise the need and to act upon it in this country, who can tell what a terrible responsibility may rest upon those whose business it is? This is not a new problem, but time and critically changed conditions have intensified it.

Though there may be no moment to lose, panic haste does not yet exist, and there is still time to consider the lessons of the past as well as to plan for the future. It may therefore not be unhelpful to dip into history and imbibe from it such drafts of knowledge and experience as may protect us in some measure against the unknown and perhaps bitter ills of the future.

Historical.

In 1904 a Royal Commission was appointed by King Edward VII. " To Inquire into the conditions affecting the " importation of food and raw materials into the United " Kingdom of Great Britain and Ireland in time of War, " and into the amount of reserves of such supplies existing " in the Country at any given period ; and to advise " whether it is desirable to adopt any measures, in addition " to the maintenance of a strong Fleet, by which such

" supplies can be better secured and violent fluctuations " avoided."

To this Commission was appointed, among the 18 distinguished members, no less important a person than the Prince of Wales—our late King George V.—upon whom so much responsibility fell when war did occur ten years later.

The Report of the Commission was published in 1905 and ran to some 832 pages. Its chief conclusion appears to have been that " We look mainly for security to the strength " of our Navy." How fully that trust has been justified should be common knowledge to every school child.

But January, 1904, was exactly thirty-three years ago, and much water has flowed beneath the bridges and blood on the battlefields since then. Even so, in that decade of safety, as we see it now, careful consideration was given to such matters as these:—

The essential proviso " Command of the Sea."

Means for storing grain in this country. (Then the nation's wheat stocks or requirements varied from 6½ to 17 weeks' supplies within our shores, and weekly consumption amounted to about 600,000 quarters.)

Some form of subsidy to stimulate wheat production and holding in stack by farmers.

A scheme for fiscal control with a tax on imports and a period of detention in bond.

Anxiety to know at any given time the exact holding of stocks in the country and at ports.

A system of national indemnity to encourage shippers to risk losses by enemy action.

Though the Report is now regarded historically, points of much interest arise in the light of subsequent events. In particular, when " armed cruisers " and the probable influence of " steam " were referred to, the part which sub-

marines, oil and aircraft were to play was not foreseen. If, therefore, such significence was attached to the matter of foodstuffs then, how much more important is the subject now!

Is it not pertinent to ask now that a new Royal Commission be appointed with terms of reference not very dissimilar from those of the Royal Commission of 1904?

Let us span ten years in our review—a decade of peace and perhaps prosperity—bringing us to the fateful year of 1914 when, on 4th August, Britain entered upon the greatest war in its own or the world's history.

It is fortunate indeed that at that time the British Navy had actual command of the sea and was able to bottle up in their ports the major portions of the fleets of enemy nations. This fact, combined with our finely organised Mercantile Marine Service, ensured the arrival at these shores of sufficient food and raw materials. British agriculture, then modestly plodding along its lone and long furrow, contributed, and for two years no acute food shortages were made apparent to the general view.

A short review of the War years from the aspect of food supplies may be of value not only historically but in order to glean something from them which, if carefully garnered, may help to prevent lean later years.

I would therefore like to refer to that important work of Sir William Beveridge, K.C.B., M.A., B.C.L., LL.D., entitled *British Food Control,* which was published in 1928. Sir William Beveridge was formerly Permanent Secretary to the Ministry of Food and is an unquestioned authority. He shows the progression of events affecting the supply and control of food during the Great War, and I have endeavoured to summarise these events very briefly.

As early as 20th August, 1914, a Royal Commission on Food Supplies was formed.

From the end of 1914 onwards the Government took secret steps to form a hidden reserve of wheat in order to secure supplies.

In June, 1916, nearly two years after the War had begun, a Departmental Committee on Food Supplies was appointed, which made its first Report in September of that year.

In October a Royal Commission on Wheat Supplies was constituted.

Two Parliamentary debates of the 17th October and 15th and 16th November were followed by the establishment of a Food Department under the Defence of the Realm Regulations on the 16th November, 1916.

Political manœuvres embracing the fall of Mr. Asquith's Coalition and the formation of Mr. Lloyd George's second Coalition included the appointment at the end of 1916 of a "Food Controller" in the person of Lord Devonport, who filled this position from December, 1916, until June, 1917. The chief points of interest during this period were the development of the "Wheat Commission," the building up of cereal stocks, and the diminution of consumption by restrictions on brewing and by changes in the quality of flour.

A Food Economy Campaign and Voluntary Rationing were also instituted, but no effective control. As in recruiting, only the "Derby" stage had been reached—not that of Conscription.

The submarine havoc (not envisaged by the Royal Commission of 1904) increased.

On the other hand industrial unrest, linked up with rising prices and faulty distribution, which *was* foreseen by that Commission, was making itself felt.

At last the War Cabinet accepted Lord Devonport's scheme for food rationing, and his successor, Lord Rhondda, who was the next Food Controller from June, 1917, until July, 1918, established complete control of nearly everything eaten and drunk by a population of 40,000,000 persons. The civil population was in fact catered for like an army.

The Food Controller requisitioned at fixed prices the whole of the essential imported and home-grown supplies,

utilising manufacturers, importers and distributors as his agents on commission, at fixed prices or on fixed margins of profit under his direction.

Operating through Divisional Food Commissioners and Food Control Committees set up in August and September, 1917, a commencement was made by a registration of households as the basis of sugar distribution.

The lowering of bread prices by an Exchequer subsidy followed in September, 1917.

In the same month was set up an Allied Provision Exports Company in America to purchase there foods other than cereals and sugar.

The fixing of meat prices took place in August, 1917, and Live-stock Commissioners were established in October and November, 1917. Queues for meat, margarine, tea, &c., grew early in 1918 to a portent, but these were ended by the introduction of the London and Home Counties rationing scheme of 25th February, 1918—extended to the rest of the country six weeks later.

After Lord Rhondda's death at his post on 3rd July, 1918, Mr. Clynes, Parliamentary Secretary, who had already been taking more and more of the responsibility, acceded in July, 1918, and continued until he resigned in December.

Mr. Hoover had arrived in Europe and an Inter-Allied Food Council was set up to formulate a programme for all the European Allies.

The programme for imports and the scheme for rationing feeding stuffs for stock were happily made unnecessary by the changed fortunes of war. Episodes such as the further soaring of food prices and the wrestle with the potato problem following a heavy crop, together with political upheavals, saw the close of the transactions of food control so far as the actual War situation is concerned. For another two and a quarter years, however, under two more Food Controllers (Mr. G. H. Roberts and Mr. C. A. McCurdy) the problems of de-control, profiteering and re-control were

dealt with, and in 1919 the organisation was called upon to cope with supplies during the railway strike—the utilisation of a war-time organisation for a peace-time problem.

There exists, therefore, in official archives a mass of information upon this complicated and important subject, which can be delved into for present or future use.

Continuing the historical survey, but now for the moment in its purely agricultural aspect, the notable theme which has run through the ages is that of "Pasture" *versus* "Plough." Sir Thomas Hudson Middleton, K.B.E., C.B., LL.D., then Deputy Director, Food Production Department, puts this age-old controversy succinctly in his important work *Food Production in War,* published in 1923.

The rival claims of live-stock and of grain go back, as he reminds us, to Rudyard Kipling's "Hobden" defending against Roman, Danish and Norman invaders and innovators, the precious old turf of his "little river piece," with just such arguments as were used centuries later by William Greville. This William Greville, "flower of the wool "merchants of all England," flourished by reason of the grazing around Campden on the Cotswolds five hundred years ago. Then the Cotswolds were vast grazings or sheep walks, while the clay plains were the wheat lands. To-day the Cotswolds are under the tractor while the plains are devoted to "permanent" pasture—a strange reversal.

In 1597 we find it was enacted that "arable land made "pasture since 1st Elizabeth (1588) shall be again "converted to tillage, and what is arable shall not be "converted to pasture."

It is interesting to note that this enactment of Elizabeth's reign was literally applicable to the problems which the Food Production Department had to solve in the seventh year of the reign of King George V., when, again, orders were passed bringing into cultivation land which had been "made pasture," and ensuring that "what is arable shall "not be converted to pasture." The submarine had

decided the problem. Not since the early part of the nineteenth century, during the Napoleonic Wars, had so much discussion centred round it. It is one which will arise again when a fresh national emergency occurs, for important as meat and milk may be, bread is the staple food for us, and is likely to remain so for a long time to come. It is the root of the policy which on history and on experience still recommends itself for present adoption. Moreover, it is a sound policy from a purely economic point of view to encourage arable farming for, as Lord Ernle points out in his masterly book *English Farming Past and Present,* from 100 acres of arable 150 persons can be maintained for a year, while from 100 acres of grass, the number is under 15.

It is strange to reflect how slowly are lessons learned by us and with what difficulty. For example, though Germany timed the War to begin just as her harvests were ripe and, ensuring that the fighting should take place on the farm lands of her enemies, promptly set about intensive planting for the harvests of 1915, in England there was no corresponding activity. No organised extension of the tillage area occurred during the earlier years of the War ; no trustworthy plan had been made by qualified experts. The Navy was relied upon, and until the submarine menace grew to sinister proportions towards the end of 1916 a food production campaign was not decided upon.

Some idea of the alarming extent and growth of losses caused by enemy submarines is given in the following figures:—

	The British Empire. (Gross Tons.)	World Total. (Gross Tons.)
In 1915 the loss of shipping was ...	885,471	1,312,216
,, 1916 ,, ,, ...	1,231,867	2,305,569
,, 1917 ,, ,, ...	3,660,054	6,078,125

It is interesting to know that during the eleven months of 1918, as the result chiefly of the convoy system, this

destruction was greatly reduced. The figures for this period were 1,632,228 gross tons and 2,528,082 gross tons for the British Empire and the world respectively.

But the desperate gamble of the German submarine campaign had come dangerously near success.

Recommendations had been published by the Consultation Committee which had been set up at the outbreak of War, but as Sir Thomas Middleton tersely remarks, that three years later when the land was being squeezed for every bushel of corn it could produce, the advice read as if one had said to a man whose house was on fire " There " seems every reason to suppose that it might prove to be " to your financial advantage to remove your furniture, " but we do not, of course, suggest that you should risk " damaging the lawn "!

May not the same kind of situation have arisen now? In spite of the grave state in Europe during 1936 and of fevered measures taken to rebuild our decayed defences, we have already allowed the 1936 wheat-planting season to pass without any special inducements having been ordered to co-relate home production with home defence.

The War Cabinet in its Report for the year 1917 (after effective steps had at last been taken) stated: " Agriculture " has been restored to its proper position in the national " economy. After long years of neglect its vital importance, " not only for the production of food, but for the healthy " balance of the life of the nation, has at last been recog- " nised. The guarantee of minimum prices for food " products, ... coupled with the other measures of the " Department of Agriculture, mark a new era in the rural " history of the British Isles."

Yet farmers at the present moment are faced with the hopeless problem of trying to produce corn, meat and milk at prices competitive with imports, but with higher costs for labour and other requirements.

Subsidies, quotas and marketing schemes have helped to avert actual collapse of the industry, but unless a generous,

long-sighted and all-round policy of helpfulness is adopted, the outlook is grave, not only for farmers but for the whole population, should supplies from overseas ever be cut off.

Contemporary Views.

Coming now to contemporary views, the Council of Agriculture for England on the 19th June, 1936, endorsed unanimously the resolution proposed by Sir Merrick Burrell, Bart.:—

> "That the Council of Agriculture for England is seriously concerned over the position of the national food supply, which, in its view, is at present one of the weakest links in the chain of national defence. Both the fertility of the soil and the means for increased production of foodstuffs are to-day less than they were in 1914 and subsequent years, when the shortage of food supplies placed the country in a most perilous position. The Council therefore desires to urge on the Government, and through it on the country, the great national importance of this question. It suggests that those responsible for defence should be requested to give it their instant attention so that adequate remedial measures may be at once set on foot."

The Central Landowners' Association, which represents among its membership of 10,400 most of the owners of large estates and an increasing number of owners of large farms, has submitted its considered views upon an agricultural policy to the Minister of Agriculture and Fisheries. In 1932 these took the form of an Interim and Final Report and in 1935 that of a Memorandum. From the latter this significant paragraph is quoted:—

> "Since 1932 the European situation has produced a further consideration and one of grave national importance. The safety of this country and of the Empire may one day depend upon home-grown supplies, and this in face of the unforeseeable effects of air attack on our ports at exceedingly short notice. Increase in home production of food is therefore just as necessary as adequate defence forces."

In a special addendum dated 23rd July, 1936, it states: "That the admitted necessity to strengthen our powers of "defence demands immediate attention to the weakest "point in the whole of our defence system, namely, the "danger of starvation to the population of the United "Kingdom being brought about by air and sea attack upon "our overseas supplies of food."

"And that the only proper and effective counter-measure "to this danger is, firstly, to be found in a policy which "will remove all restrictions in production in this country, "and, secondly, in setting in hand the necessary measures "to ensure that the normal production of food in the United "Kingdom is raised as soon as possible to a far higher "level than at present."

"Also, in view of the great dependence both of the "population and of the agricultural industry on large "importations of cereals, the establishment of some form "of storage of imported cereals is a necessary corollary to "the above measures of defence."

In March last Sir Thomas Inskip was appointed Minister for the Co-ordination of Defence.

In May he appointed a Sub-Committee on Food Supplies for the Civil Population, of which Sir William Beveridge became Chairman, and Sir Ernest Gowers was seconded to the Committee in July.

Simultaneously with the deliberations of this Committee, the Air Raid Precautions Department has been examining the problem of protecting food-stuffs from enemy bombing and gas attack.

The Prime Minister in his speech in the debate on the Address on 12th November, 1936, said the main functions of the defence services for the protection of food had been defined and a scheme of rationing prepared which could be used in an emergency. He pointed out that the investigation of other questions might take some time, instancing the creation of stocks of food and arrangements for food control.

As a further move in this direction it was announced from No. 10, Downing Street on November 28th, 1936, that the President of the Board of Trade would set up within the Board of Trade a department to be called the " Food " (Defence Plans) Department." The Director of the new department is to be Mr. H. L. French, Second Secretary, Ministry of Agriculture. As he was General Secretary of the Food Production Department during the most critical period of the War and has had very wide and long experience of food production problems, especially in relation to defence, there could be no better choice.

The new department will be concerned with supply, control and distribution and not directly with production, which is to remain a responsibility of the Agricultural Departments.

The Food (Defence Plans) Department will be linked with that of Sir Thomas Inskip, the Minister for the Co-ordination of Defence.

The important point is that up to the moment of writing no definite policy has been announced for the stimulation of food production in this country. If, however, the need for such stimulated production and for storage in this country has been proved and is admitted, it is imperative, first of all, to plan how these things are to be done and then to give immediate effect to such plans.

Stimulation of Production.

Taking first of all stimulation of production ; the chief stumbling-block is that of making foods dearer to the population, for it means some corresponding restriction of imports, preferably by levying upon imports a sufficient contribution to reimburse growers here for carrying out their part of the bargain, viz., to grow as near to 100 per cent. of the country's capacity as possible.

Over-production.

The next difficulty to face is the fear of over-production. But it may be taken as an axiom that there can be no over-production here while on the one hand we import quantities of things which we could produce, and while on the other hand any considerable proportion of the population remains undernourished through non-ability to purchase sufficient wholesome food.

Professor Orr has, in his book *Food, Health and Income*, shown that an important section of our community, some 22½ millions or 50 per cent., are undernourished because they cannot afford to pay for enough of the bare necessities.

He shows that the foods consumed by—

4½ millions are deficient in every one of the important constituents examined ; those of

9 ,, are adequate in protein, fat and carbohydrates, but deficient in all the vitamins and minerals ; those of

9 ,, millions are deficient in several of the important vitamins and minerals ;

and that to bring up these poorer groups to the level of the lowest of the better-nourished groups involves the consumption of milk, eggs, butter, fruit, vegetables and meat varying from 12 to 25 per cent.

This is a distressing thought both because of the misery of the individuals themselves and on account of the danger to the well-being of the nation's life. It is also an anachronism in the face of the deliberately restricted output of, for example, such health-giving and sustaining commodities as potatoes and fresh milk.

The remedy surely is to see that any foods surplus to the requirements of the normal consumer, who can afford to pay recognised and fair retail prices, shall find their way to

those who are less well off—*e.g.*, through lack of work or through ill health—at something considerably less in price, *i.e.*, at what may be termed " wholesale price, plus costs " of a modified system of distribution "—in other words, to " divorce the service from the goods," as Sir John Orr has suggested.

As to how this is to be done is perhaps not easy of solution, but a proposal is offered for the earnest consideration of those whose concern it may be.

(i.) Surpluses, as such occur, shall be ascertained and shall be made available by means of vouchers, to those who are, for example, in receipt of Unemployment, National Health Insurance or other public relief.

(ii.) Vouchers shall be at prices based on " wholesale " or " manufactured " values, plus bare costs of a modified system of distribution.

(iii.) The vouchers to be for a proportion only of the total amount of relief receivable, and be optional to the recipient. (The favourable prices, it has already been found, induce a larger proportion of such categories of persons to take advantage of the vouchers.)

(iv.) The modified system of distribution would be delivery to given centres where recipients would arrange to collect, using their own receptacles.

(v.) Existing distributing organisations would be called upon to assist in the operation of the scheme.

(vi.) The Ministry of Labour might administer the scheme through its Labour Exchanges—in conjunction, of course, with the Ministries of Agriculture and Health, the Board of Trade and the appropriate Marketing Boards where such exist.

Experiments have already been carried out which prove that a scheme of this kind can be operated with benefit.

In February and March, 1935, the Potato Marketing Board instituted what is known as the " Bishop Auckland " Experiment." This was carried out under strictest checks and costings, and it was found that the unemployed in that depressed area of county Durham, by use of the facilities, increased the consumption of potatoes by no less than 96 per cent. in the eight weeks covered by the experiment.

It is surely better to deal with so-called " surpluses " in this way than to restrict the potato acreage and to impose too stringent riddle regulations.

Another experiment at present in progress is that put into operation by the Milk Marketing Board in the distressed area of the Rhondda Valley. There, by co-operation with retailers, the Special Areas Commissioners and the Local Authorities, nursing and expectant mothers, young children and other necessitous cases are receiving nearly a pint per person per day, approximating closely to the one and a quarter pints advocated by Sir John Orr, the nutrition expert.

Returning to stimulation of production, which is, perhaps, the *motif* throughout the chorus now swelling to " community " proportions, it may be helpful to take certain staple food commodities in their probable order of importance, and examine means for making them more abundant from our own soil.

Wheat.

The Wheat Act, 1932, has done a good deal to increase the wheat acreage in this country, but it should be extended. At present the Act assumes a home-grown supply of 6,000,000 quarters or 27,000,000 cwts., upon which the full deficiency payment to bring the price up to 45*s.* per quarter may be paid. If more wheat is grown, the deficiency payments are proportionately reduced all round. This has been the case during 1933-4-5 and 6. The total millable wheat

sold in 1935-36 totalled 33,650,000 cwts., or about 7,500,000 quarters, and the deficiency payment was therefore made on only 80·238 per cent. of the wheat sold.

This country is capable of producing at least 10,000,000 quarters—probably a great deal more, and if this were done under present conditions the deficiency payments would be reduced by some 40 per cent. By limiting payment to a given quantity the bad principle is established that the more wheat farmers grow against a food emergency the less they get per quarter.

The official reason for such limitation is that 6,000,000 quarters take up all the land suitable for growing wheat. This is clearly erroneous. There is a huge further acreage, once under wheat but now down to indifferent pasture, which would grow excellent crops of wheat again if price encouragement were forthcoming.

As the quota system has proved itself successful in practice and unobjectionable from every fair point of view, it should be extended now to cover an *unlimited* amount of millable wheat at full deficiency payments.

In such an extension the Government would have at hand an opportunity for increasing the wheat reserves of the country in yet another way. It is important that as much as possible of the home-grown crop should remain in stack for as long as possible—say 75 per cent. of it for from three to nine months.

In extending the deficiency payments it could be made conditional that 33⅓ per cent. only of full payment would be paid in respect of wheat marketed before November, 66⅔ per cent. for wheat marketed between October and February, 100 per cent. for wheat marketed between January and May, and 133⅓ per cent. for that withheld until after April. This proposal could of course be modified by increasing the payments monthly, starting from harvest.

It is possible that this might not cost the nation seriously more than is paid upon the existing basis, but if after experi-

ment it were found that it did, the extra cost could be covered by an appropriate addition to the import levy.

A further stimulus could be given to agriculture by enacting that whole wheat only and no flour shall be imported. This would ensure a larger supply of wheat offals being available in this country, provide added employment in milling and allied industries, and fill British shipping to greater capacity.

At present, of the total of 5,600,000 tons of wheat and flour imported, 550,000 tons (translated into terms of wheat) come in the form of flour—quite unnecessarily one would think.

Live-stock.

Competition with foreign and colonial meat imports has made beef and mutton production here an unprofitable occupation. What can be done to remedy this?

The institution of a subsidy for graded beef under the Cattle Industry (Emergency Provisions) Acts, 1935, is certainly a stimulus, but with foodstuffs at £7 10*s*. to £8 per ton and first quality beef selling at 35*s*. per cwt., every practical farmer knows that even with the subsidy at 5*s*. per cwt. (for first grade beef) he cannot turn beef out without loss.

The extension of the import duty-*cum*-subsidy principle is an essential factor in the recovery and extension of beef and mutton production in this country. While some preference is properly due to British colonial beef and mutton importers, foreign importers should pay sufficiently for the privilege of entering our markets to enable feeders here to produce to the utmost of their capacity at a reasonable profit.

To stabilise and standardise home-produced meat so that such large buyers as the Forces and public institutions can secure what they want without undue variations, recourse should be had to centralised killing and, as may be necessary, cold storage.

Pork and bacon productions are now affected by the Pigs Marketing Board, which for the current season is basing its policy upon handling 2,200,000 to 2,400,000 British pigs at guaranteed prices. The underlying principle of the scheme is that for every pig contracted for, a pig will be excluded from abroad.

There is, however, a weakness. At present it is not compulsory that *all* bacon pigs must be sold under the Board's contracts. The result is that although the scheme, by excluding a part of former pig imports, keeps prices at a better level, this applies to pigs sold in the open market as well as to those sold within the scheme. As it has happened that the open market prices have been better than the Board's contract prices (due, of course, to the existence of the Board), farmers will not contract for the whole of their pigs, preferring to take their chance in the open market for part, at least, of their output.

As costs of production of bacon in factories depend largely upon the numbers of pigs handled, it is clear that unless the maximum number, *i.e.*, the whole of the British output of bacon pigs, is sold under contract to the factories, it is less easy to compete with imported bacon at competitive prices.

In short, the scheme should be compulsory for all bacon pigs.

At the time of writing, the minimum requirements of the Bacon Marketing Scheme, namely, 2,200,000 pigs for the 1937 contract, have fallen short by 400,000 pigs. Though an extension of time for contracting has been given and a special appeal made, it seems doubtful, with the lure of the open market in view, whether the full number will be forthcoming. It will be a calamity if the scheme breaks down through lack of thoroughness in its provisions.

There is no existing scheme for assisting mutton production in this country. Chilled and frozen mutton imports from foreign countries amounted in 1935 to 64,000 tons, and

from the British Empire amounted to 271,000 tons, while home-killed mutton amounted to 273,000 tons.

It is imperative that some stimulus be given to mutton production in this country. In addition to the better pastures and to sheep arable, there are wide areas of rough grazing which could be improved to carry a considerably larger head of sheep.

The method which commends itself is the imposition of an import duty upon imported mutton—with a preference to Empire imports—and the use of revenue from this source in payment of a guaranteed minimum price for prime or graded mutton. Why should so important a branch of the farming industry be left out in the cold?

Poultry, rabbits and eggs form considerable items of production, both on large and small farms, and are especially important because they are within the scope of the small-holder and allotment-holder. They must therefore not be forgotten in the scheme of things. They are, moreover, among the branches or sidelines of farming, where if need arises and adequate stocks are maintained, rapid expansion can take place.

How, then, is the development of these products to be stimulated? These are instances where there is virtually no limit to development except that of economic returns. Foreign countries, which produce poultry and eggs by a standard of labour which would not be tolerated here, send their surpluses here in such quantities as the following:—

	Eggs in Thousands of Great Hundreds.
Denmark	6,564
Netherlands	2,679
Poland	2,014
China	1,226
Finland	641
Roumania	439

For the privilege of entry into our markets these imports should bear a toll, and the resulting funds should be devoted to the expansion of the industry here.

Sugar Beet.

The growing of sugar beet is an example of what can be done when help is forthcoming to develop any particular branch of farming.

In 1914 the area of sugar beet grown in this country was 2,328 acres and the white sugar production 1,305 tons. In 1935 the area was 374,753 acres and the white sugar production 471,704 tons.

There are now eighteen sugar beet factories in Great Britain, and these produce one-third of our total sugar requirements. In addition, they provide 124,000 tons of molasses and 270,000 tons of sugar-beet pulp for the feeding of our live-stock.

Sugar was the first commodity to be systematically rationed during the Great War, and it will be realised readily what an asset this new industry is to the nation and how important it is to continue the encouragement which has been afforded to it.

Potatoes.

The Potato Marketing Board, which was instituted in 1933, now deals with the control of the potato crop in this country. It does so by—

(*a*) restricting the area cropped ;

(*b*) controlling imports quantitatively ;

(*c*) imposing riddle restrictions.

While the control of imports is a sound policy, the other two restrictions are open to question, for it cannot be right in principle that the production here of any important food should be restricted while there is a shortage on the part of any section of the population of that food. This aspect has been dealt with earlier in this paper. It should be a matter not of restriction of production to maintain prices but of proper distribution and of conservation. The potato

PAULS, AVONMOUTH.
Original Silo and Extension carried out in 1936.

The Nation's Fo

The Minister for Co-Ord

Food (Defence Plans) Department (recently formed).

General administration	Other Government Departments.	The National Farmers' Union		Fo Ministry of Ag + Fisheries
Centralized administration				
Decentralized administration				
Headquarters of administration.		Marketing Boards	President, Council and Permanent Staff, London.	Minister + Pa Staff, Whitehal advised by The Council Agriculture fo
County and Area administration.		Administrative Areas	County Executive Committees and Secretaries	County Counc Agricultural E Small Holdin Co Diseases of An Sub-Commi Advised + assi Ministry's Com County Land County Organ and other Off
Local and individual administration.		Executive Officials	Area Committees and Secretaries.	
Corn and crops.	Board of Trade Ministry of Health " " Labour Home Office Treasury etc.	Potato Marketing Board. Hops " "	General + Individual Administration as above	as above
Milk.		Milk Marketing Board.		as above
Meat + Livestock.		Pigs Marketing Board. Bacon Marketing Board.		Ministry's Livesto " Veterina
Building + Storage.		Boards as above		as abov County Arc
Statistics.				as abov Agricultural Officer
Rationing.				as abo
Consumers' Interests.		Boards as above		as abo
Shipping + Fisheries + General.				as above The Fishery No. 1 White London, and River Fish

...plies.

...n of Defence.

...duction Department (Should be formed)

The Chartered Surveyors' Institution	The Central Landowners' Association	Specializing Associations	Other Allied and Interested Bodies
President, Council & Permanent Staff at 12, Great George Street, Westminster, S.W.1	President, Council & Permanent Staff at 7, Charles Street, St. James's Square, London, S.W.1		The Land Agents' Society The Central Chamber of Agriculture.
County Branches County Agricultural Committees	County Branches " Committees " Secretaries		
Individual and Specialist Members	Individual Landowners		Chambers of Commerce.

Land Agents, Valuers, etc

Land Agents, Auctioneers, Valuers, etc

Surveyors and Architects.

as above

British Millers' Associations

Milk Retailers' Assns.
British Meat Producers' Assns

British Associations of Refrigeration
National Federations of Cold Storage

British Fruitgrowers' Association.

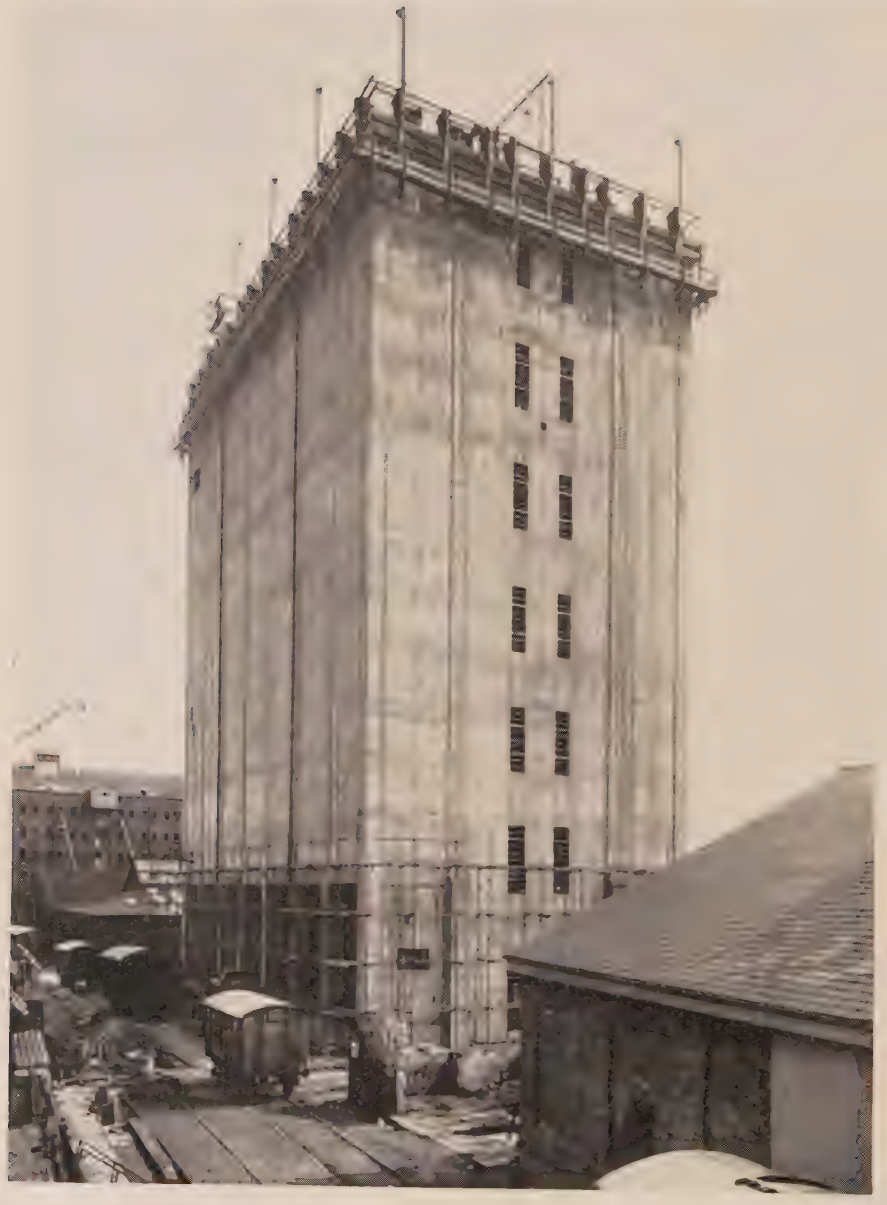
National Poultry Assn.
British Beekeepers Assn.

Royal Institute of British Architects
Institute of Civil Engineers.
The Statistical Society.
Government Departments.

General Body of Individuals and Specialist Members

Consumers Associations

British Merchant Shipping Associations



Severn Ports Warehousing Co., Ltd.
Silo (10,000 Tons)
Sharpness Docks.

is capable of conversion into a number of food and other products of a kind which can be stored, and it is in this channel that the Board's activities should also be directed. The subject should be handled from the national point of view, and not solely from the narrower one of maintaining prices to the producer, important as this is. The latter can be done without clashing with the former consideration.

Levies upon potato imports at times when stocks are plentiful here will, if substantial enough, both tend to keep out unwanted outside supplies and yield revenue from which factories for the production of farina, potato spirit and other commodities can be established.

Barley and Oats.

These two products offer a special complication as they are used in large quantities both for human consumption and for stock feeding. It is felt by one section of the farming community—the "Feeders"—that any attempt to control imports of these grains or to impose a levy upon them might raise the price to them of their cattle food. On the other hand, growers of malting barley and of high-quality oats receive no such special consideration and help as is given to wheat growers, and it is largely the fortuitous circumstances of soil and climate which dictate the crop. That differentiation could be made between imported barley and oats intended for human consumption and barley and oats destined for cattle feeding is, of course, certain. The former could well be brought within the policy of import levies while the latter could continue to come into the country unrestricted. If those responsible have the will to deal with a problem of this kind it can be done.

Towards Increased Production.

Grassland Improvement.

Professor R. G. Stapledon, C.B.E., M.A., both in his important book *The Land Now and To-morrow* and in his

addresses and other publications, has stressed the importance of reclamation of much of the grassland of this country, a high proportion of which is capable of great improvement. This involves the use of plough and cultivations, greater use of lime and phosphatic manures and seeding with scientifically produced and selected grasses sown as four to six years' leys. By lengthening the grazing season and increasing the yield and food value of such temporary pastures, not only is the land enabled to produce more meat and milk per acre while it is laid down, but it is storing up fertility which may at short notice be converted into wheat by the use of the plough.

He is of opinion (and no one is better qualified to speak on this subject) that some 16 million acres of land in England and Wales is in a more or less neglected condition, much of it absolutely derelict. He further states that every single acre of this enormous area—no less than 43 per cent. of the land surface of England and Wales—is capable of radical improvement.

These opinions are not based merely on scientific data, though Professor Stapledon is a scientist, but upon actual test and practice under his own direction.

He advocates a grassland survey of the country to be carried out by a trained central body and not by local committees. This he would follow by large-scale "animal-" sward" trials and by judicious application of the plough and re-seeding with the right mixtures. To meet even a modified 10-year plan on these lines it would be necessary to harvest the seed of white clover, perennial ryegrass, cocksfoot, &c., off 58,000 acres. Since the right seeds for sowing are very limited at the outset, stock seed farms comprising 6,500 acres would be a necessity.

He professes to being an experimenter and an idealist, and remarks "That if this country would take heed to its "rural resources in men, in land and in food it would be "the best thing that could possibly happen for the welfare "of the nation at large."

Grass Drying.

Grass drying, in order to provide a supply of winter food-stuffs for live-stock in replacement of imported feeds, is an innovation which has come to stay. Cut when 6 to 8 inches long, herbage—grasses, clovers, lucerne, &c.—when artificially dried contains protein equal in food value, it is stated, to an equivalent weight of linseed cake, and has at least an equal value when fed. Dried grass is therefore of considerably greater value than well-won hay, and it has the added advantage that it can be made in all weathers and not only when the sun shines.

Three or more cuts may be taken off the same land during a season, and herbage quality does not deteriorate seriously as the summer advances ; quality is more dependent upon cutting the herbage young than upon time of cutting.

Grass drying plants can now be obtained at costs from about £500 upwards, and it is contended by some who have installed certain types that the cost has been recovered in the first year's working.

The importance of this development from the standpoint of this paper is that the more that farmers can produce cattle foods in this country instead of importing them, the safer will be the nation's position when importation becomes a difficulty or impossibility.

Fertilisers.

The fuller use of fertilisers is bound to play an important part in increased production. Lime and phosphate deficiencies have already been touched upon. Nitrogen and potash are also necessities.

Farmers are quite awake to the value of these manures and need only the stimulus of better prices to use them more freely. The advantage to the country at large of opening up quarries, kilns and mines, and of manufacturing and transporting is obvious.

There is too the question of holding reserves of such largely imported fertilisers as phosphates and potash, so that there shall be no serious deficiency if and when shipping is needed for carrying even more vital necessities.

The chemical fertiliser industry is highly organised, and this side of the problem of increased production might well be referred to it with a view to a concrete plan being framed.

Mechanisation and Liquid Fuel.

Though progress has been made in the development of tractor cultivation and mechanisation generally in farming operations, there is a wide field for further development. There are few farm operations which cannot now be performed mechanically, and there is no doubt that in the face of heavy labour and other costs this is an aid to production. There is, though, a danger should a national emergency occur. This is the probable shortage of liquid fuel. The demands of the fighting services and of transport and other needs will be enormous, and it is very unlikely that enough oil and petrol will be available for agricultural requirements.

This leads us to two thoughts in planning for the future. Firstly, the need for fuel storage arrangements. In any scheme for national storage, account should be taken of the needs of agriculture. It has been suggested that farmers owning tractors and oil-driven engines should be obliged to store six months' supply. Such a desirable arrangement could no doubt be brought about by (*a*) remission of the whole or a substantial part of the tax on heavy fuel oil and petrol so stored, and (*b*) a guarantee that such stores would not be seized for other purposes in an emergency.

The possibility of producing fuel spirit from home-grown potatoes has been mentioned already. If developed, farmers would be helped to make themselves independent of outside supplies.

Horse-breeding.

The second thought is that the horse should continue to hold a place in farm economy. Whatever precautionary steps may be taken, it is almost inevitable that tractors will become partially immobilised in a real emergency by reason of shortage not only of fuel but of spare parts and of servicing facilities. Then horses will come into their own again. Horses are paying their breeders now better than most classes of live-stock. It will be wise to breed more of them.

Land Drainage.

There are great possibilities for soil improvement in the matter of land drainage. Open drains, pipe drains and even mole drains are expensive, but the immediate and permanent improvement which follows sound drainage work, makes it impossible to overlook its importance when considering means for increasing production.

At present the larger drainage schemes are financed in part from the public purse, but the only financial facilities available for individual field drainage are by means of loans from the Agricultural Mortgage Corporation or the Lands Improvement Company. While remunerative prices for produce would in time enable many owners and farmers to drain their land, some form of subsidy for small drainage works (*i.e.*, " single field " schemes) would do much to help.

Credit.

The Agricultural Credits Acts have made provision for long term loans upon the security of lands and for short term advances in the form of chattel mortgages—against crops and stock.

Also a number of financial houses give hire-purchase

facilities upon interest terms for the purchase of live-stock and machinery.

There is a strong feeling, however, that some more flexible and cheaper form of financial accommodation than any of these should be available.

A large number of farmers have come near to the end of their resources, and even if a measure of prosperity does return to the industry, they will be in a poor position to take advantage of it in the absence of such financial assistance.

Sterilisation of Land.

There is a danger which is ever making itself more apparent—that of the quantity of productive land being fed into the maws of building and development. This to some extent is inevitable. That monster, progress—for such it sometimes seems to me to be—demands its fill. But it is for surveyors and others to see that it is not extravagantly fed. If, by adding dignified stories, acres can be saved, do not let us lend approval to sprawling, wasteful, single-floor buildings. Plan green belts, playing fields and breathing spaces, but remember that every square yard of them may be needed one day for growing food.

Organising for Increased Production.

Reference has been made to the Food Control Board which has been set up under the co-ordination of the Minister for Defence. But it was made clear when it was formed that it would deal with the availability and control of food and not with its production. As this Paper is concerned primarily with production, this matter needs careful attention at this point, particularly as there is an unpleasant feeling that the newly formed Board may look to overseas rather than to its own countryside to make its requirements available.

A Food Production Department.

A corresponding Board, there is no doubt, should be constituted solely to concern itself with *production* in this country.

Agricultural experts with a practical knowledge of the problems should form its membership, and its terms of reference should render it independent of (though closely in contact with) other departments, excepting, of course, that of the Minister for Defence, under which it would operate.

Such a Board would readily command co-operation and help from Government departments concerned, from agricultural organisations and from professional institutions and societies having agricultural interests.

As an indication of some of the bodies concerned (or which should be concerned) with a problem of this kind and their contracts with it, the table between pages 100 and 101 has been drawn up.

Some Figures.

It has been shown earlier in this Paper that the enemy submarine menace during the Great War was countered successfully by the convoy system, but what has not yet been tested is the effect of concentrated modern aircraft attack upon ports and shipping. The once-successful convoy system may offer greater danger in the future from its very concentration.

Fully to realise our present dependence upon overseas supplies, it is necessary to give some figures to show what we require of given foods (taken as examples), how much we grow here, and how much we import. It is the extent to which we can increase the second category and store the last that may determine our very future existence as a nation.

The 45,000,000 of our population has in England, Scotland and Wales a heritage of nearly 30,000,000 acres of agricultural land (apart from rough grazings).

This population's needs in certain commodities are given below, and the quantities are divided to show the amounts produced here and those imported in the most recent year for which figures are available:—

Commodity.	Total amounts required.	Amounts produced here.	Amounts imported.
Wheat and Flour	36,000,000 qrs.	7,000,000	29,000,000
Beef	1,347,000 tons	657,000	690,000
Mutton	625,000 tons	265,000	360,000
Pig Meat	868,000 tons	407,000	461,000
Dead Poultry ...	2,088,000 cwts.	1,636,000	452,000
Eggs			
Potatoes	4,843,000 tons	4,652,000	191,000
Barley	1,590,000 tons	735,000	855,000
Oats	2,257,000 tons	2,079,000	178,000
Fresh Milk ...	1,584,000 thousands of gals.	Practically all	negligible (The above include any amounts which may be re-exported.

To enable farmers to receive a reasonable return for their industry and to ensure a real expansion of production, prices to them of their principal products, based upon present-day costs, should not fall below the following:—

	£	*s.*	*d.*	
Wheat	2	10	0	per quarter
Malting Barley	2	5	0	,, ,,
Oats	1	4	0	,, ,,
Beef	2	10	0	,, cwt.
Mutton	0	1	0	,, lb.
Pigs	0	13	0	,, score
Potatoes	6	0	0	,, ton
Sugar Beet	2	0	0	,, ,,
Milk	0	1	2	,, gallon

Storage.

Now that the Food (Defence Plans) Department has been established (during the preparation of this paper), it is perhaps not so much within my province to enlarge upon storage.

The subject is of such importance and is so linked with production that some reference to it can hardly be avoided.

There appear to be three main heads:—

(*a*) Silos for grain.

(*b*) Cold storage for meat.

(*c*) Canned goods.

The general considerations which stand out in connection with storage are that there should be an increase in accommodation, wider distribution and better protection. There is danger at present from the fact that much of the existing storage is concentrated close to our great ports and is vulnerable to air attack. One example is that of a certain great dock, where mills capable of turning out some 500 sacks of flour per hour are concentrated upon about 30 acres.

The possibility of placing at least some of the cold stores and other stores underground in disused quarries and mines is worth consideration.

These matters could be met to a great extent by decentralising the responsibility and requiring city authorities and other urban authorities to carry out schemes for ensuring sufficient up-to-date storage accommodation for their respective populations.

Silos.

So far as the construction of grain silos is concerned, modern methods, with the use of tall monolithic masses of ferro-concrete would seem to render the danger of destruction from the air somewhat remote.

Examples of two such silos, one at Avonmouth and one nearing completion at Sharpness, Gloucestershire, are

shown, by the courtesy of Mr. F. E. Cullis, MEM.SOC.ENGS., A.M.INST.W.E., &c. (Engineer to the Severn Commission and other bodies), who kindly lent me the photographs for reproduction.

That nearing completion at Sharpness was designed by Messrs. L. G. Monchel & Partners, Ltd., Civil Engineers, 36-38, Victoria Street, Westminster, S.W.1. The contractors for the structure are Messrs. Holloway Bros. (London), Ltd., Bridge Wharf, Millbank, Westminster, and the machinery is being installed by Messrs. H. Simon, Ltd., Cheadle Heath, Stockport.

The capacity of the silo is 10,000 tons of maize *or* 11,000 tons of wheat or 46,000 quarters. The cost will be approximately £28,000 for the structure and £7,000 for the machinery ; total cost, £35,000.

Assuming a population of 45,000,000 and a requirement of one sack of flour per head per annum, 36,000,000 quarters of wheat would be required per annum. Of this, about—

7,000,000 quarters are produced in this country.

19,000,000 ,, ,, imported from the Empire.

10,000,000 ,, ,, ,, ,, foreign countries.

To store six months' supplies upon this basis would be required 390 silos of 10,000 tons capacity, or their equivalent.

The cost would be a capital sum of £13,450,000. This sum could be reduced by conditioning and utilising existing storage which has been allowed to fall out of use. A cost therefore of some £10,000,000 would probably be involved.

It is not unfair to assume that a substantial part of this expenditure would be borne by exporting countries, as, by being required to store part of their output in this country instead of in their own as part of a bargain for an assured market, they would benefit by the arrangement. The balance of cost, it might be expected, would be borne in

part by the milling industry in this country and in part by the National Exchequer.

The storage of flour by country milling firms and by bakeries would probably be a desirability also.

Cold Storage.

Reference has already been made to certain aspects of cold storage, and it will suffice to add that it is practicable to store another important food commodity in this way in readiness for eventual curing, namely, pig carcases. These may be de-frozen and cured without serious disadvantage, though undoubtedly the factor of cost must be dealt with.

Canning.

So far as military requirements in the future may be concerned, there is little doubt that prepared foods in sealed containers will form a larger part of the ration for sea, land and air forces than has been the case in the past.

Mechanisation implies more rapid movement and operation further from established bases. The use of gas in modern warfare, moreover, makes protection of food in sealed metal containers a necessary safety measure. To these considerations may be added the older one of climate.

Not only " bully " beef and " plum and apple " jam, but cured and sliced bacon, and cooked and sliced ham and other foods are becoming a standardised part of the modern military " iron " ration. The Army is not only " tin " hatted," but is becoming more and more " tin minded." The civil population also is using increasing quantities of tinned foods, and further great expansions of the comparatively new canning industry in this country may be expected. Simplicity, elimination of waste and saving of labour have established the " tin god " in nearly every home.

A problem of the moment, then, is that of enabling manufacturers of such commodities as tinned meats, milk,

biscuits, jams, fish, &c., to carry six months' stocks of the nation's needs of these articles. The matter is more one of finance than of technical difficulty.

Summary.

It now remains only to summarise:—

1. History, the present international situation, and modern air, sea and land developments emphasise the need for food planning in this country against a possible emergency.

2. Overseas supplies can be counted upon only so long as shipping can be kept sufficiently immune from hostile air and sea attack.

3. The present two to four weeks' supplies within these shores are an insufficient safeguard against a possible contingency.

4. Storage of six months' supplies of bread and meat (or their equivalent) for a population of 45,000,000 is a fundamental necessity.

5. A policy of full production in this country is desirable in the interests of—

(*a*) Safety ;

(*b*) National physique ;

(*c*) National economy.

6. To ensure full production—

(i) Agriculture must be restored to prosperity ;

(ii) A Food Production Department should be established ;

(iii) The help and resources of institutions and individuals capable of helping should be enlisted.

7. The time for giving effect to such a policy is NOW.

APPENDIX.

OUTLINE MEMORANDUM ON FOOD SUPPLIES.

By Major Nelson Rooke, F.L.A.S. (Chartered Surveyor).

The object of this Memorandum is to outline proposals for ensuring that food supplies in this country shall be as adequate as possible in the event of a national emergency such as a blockade.

If it be true that during the Great War there was a grave danger of starvation, that our present food reserves would not last more than one month, and that developments in the air have advanced so far during the past twenty years that they constitute a serious additional menace to vessels from overseas, then there is plainly a case for immediate planning to meet or, at least, to lessen the danger.

There appear to be two main necessities if this end is to be reached:—

(1) To have a scheme of rationing in readiness to be applied in case an emergency should occur.

(2) To provide for a reserve of food to be available in this country at all times.

With regard to necessity No. 1, this is mainly a matter of departmental organisation based upon experience gained during 1914-1918.

It involves—

(i.) A skeleton staff with "earmarked" additions to be brought in at short notice;

(ii.) Complete data and means of amplifying such data as to existing reserves of food and where they are;

(iii.) Printed matter such as emergency orders, "*pro forma*" returns, ration cards, press notices, &c., in readiness for issue.

As to necessity No. 2, to ensure adequate food reserves, there appear to be (apart from military arrangements) three general requirements:—

(*A*).—Storage;

(*B*).—Maintained Production;

(*C*).—Stimulated Production.

(A).—Storage.

This embraces not only home-grown produce, but colonial or other imported supplies also.

A standard should be set—say six months' supplies for the

nation—as a minimum, and this minimum should be achieved as quickly as possible as a first step. This should then be followed by arrangements to increase reserves or potential reserves up to at least twelve months' supply.

Reserves fall within groups:—

(1) On farms, *e.g.*, in stack, in field, on hoof, &c.;

(2) In silos, cold store, &c.;

(3) Canned and similarly preserved.

(1) Normally reserves on farms (except immediately after harvest) may be regarded as a hand-to-mouth supply, since there is no special inducement to farmers to maintain reserves, and during depressed periods such as are at present being experienced they naturally sell their produce as soon as it is ready to market. Need for immediate cash has unfortunately prevented most from choosing their times and methods of marketing. This, especially in the case of cereals, has resulted in overcrowding the market at certain times with consequent lowering of both prices and reserves.

To obviate this, the national scheme for food planning should either arrange for centralised purchases with cash advances and deferred delivery arrangements, or guaranteed minimum prices for corn held for definite periods in the stack, with advance payments on the security of such corn.

(2) The present position as to colonial and other supplies of cereals, meat and other commodities is that large quantities are held in countries of export in anticipation of this country's from-time-to-time demands. With no possibility of an emergency this arrangement may work quite well, but when shipping is interrupted it of course breaks down. It therefore means that for safety storage should be provided in this country. A proportion of the supplies should be shipped here in advance of requirements.

To do so may involve greater expense, since accommodation may cost more here than overseas, and it is fair to expect that this extra cost should be met in part out of national funds here in return for the measure of safety afforded, and in part by exporting interests in view of the gain to them in form of a guaranteed market in respect of the advance supplies so shipped.

The distribution and design of silos and stores would be of course a matter for careful consideration, having regard to such matters as transport facilities, centres of population, immunity from hostile attack, &c.

(3) Canning in this country has increased rapidly in recent years, and advantage can be taken of this relatively new industry in building up reserves. For certain kinds of canned and other preserved foods—*e.g.*, meats, milk, vegetables, fruits and jams—a bonus might well be given out of Exchequer funds to meet the

cost of holding in each factory specified quantities in reserve, such reserves to be " turned over," of course, periodically.

Similar arrangements could be made with regard to bacon, fish, &c., preserved by such means as smoking, salting, drying, &c.

Sugar, too, is capable of some such control.

Each section of industry concerned should be asked to suggest the most economic plan for providing the six months' reserve of its particular commodity or class of commodities.

(B).—Maintained Production.

By this is meant a reasonably high and full production from the land. This is far from being the case at present. Production falls far short of what the land is capable of bearing. The reason for this is that prices obtained are not sufficiently high or certain to enable farmers to cultivate more intensively or to attract further capital to the land.

To remedy this, something more must be done than has been done to stabilise prices to the producer at a higher level.

It is for statesmen to devise the means, but politicians hesitate when it comes to the unpopular resort of increasing prices to consumers, of whom a large proportion are in receipt of small incomes. The imposition of higher tariffs upon imported foodstuffs, or the restricting of imports, tends no doubt to raise prices here ; but the safety factor, which is the theme of this Memorandum, is so vital that all must realise, as they have had to realise already in respect of increased income tax and tea duty to meet armament costs, that further sacrifices may be necessary if they are not to starve in the event of war.

Actually it may be expected as a result of increased agricultural production in this country that any rise in prices of food commodities would be compensated by fuller employment, not only in agriculture, but in every other industry directly or indirectly connected with it. Such fuller employment may, moreover, be expected to carry with it a higher standard of wage. Both these results would make available money for meeting the higher prices at present feared.

Whether some means can be devised of differentiating in favour of the poorer and the more needy in the matter of food prices, specially for goods of which there may be surpluses from time to time, is not within the scope of this Paper perhaps, though such would make the task of imposing tariffs and restricted imports easier.

No doubt the supply of home-produced foods to H.M. Forces would be one way of at least helping to establish production in this country. It is incredible that this has not been insisted upon long since.

Once re-establish husbandry in this country as an assured and remunerative industry, and it will be easy to follow with powers and penalties to make certain that land is no longer wasted or misused.

(C).—Stimulated Production.

This envisages an emergency "in being," when abnormal measures must be taken to obtain the quickest and greatest amount of food possible.

It involves such matters as the ploughing of pasture and amenity lands; increasing the potato acreage; production from pigs, poultry, rabbits, venison, bees, &c.—expedients many of them to meet quickly and continuously the hungry demands of a great population.

One of the chief difficulties to be met with and for which advanced planning should provide is the conservation of seed and breeding stock, as hunger will take no account of this if no steps have been taken beforehand to safeguard them.

Such measures as are touched upon here invoke direction and expenditure. The latter must be left to those whose responsibility it is to finance national requirements.

With regard to the former, a Food Planning Board appears to be called for. The matters involved are so wide and far-reaching that no one existing Ministry—except perhaps a Ministry of Defence—has sufficiently wide powers to deal with all the issues. As food planning forms an integral part of defensive measures, the ultimate direction may in part rest in the Minister of Defence.

He will, however, require to delegate his powers from the outset, and some permanent Board will have to be formed.

To do this, no doubt, in addition to representatives of the Admiralty and the Ministers for Air and War, the Ministries of Agriculture and of Health, the Board of Trade, and the Treasury would nominate members. Such bodies as the N.F.U., the C.L.A., the Chartered Surveyors' Institution, the Auctioneers' Institute and the Land Agents' Society should have representative members upon the Board.

With such a combination plans should be possible of formulation and execution which would achieve all the objects desired without undue cost to the nation, with great benefit in the matter of employment, and, last but most important, with a great measure of safety resulting in the matter of food supply in case of war.

This Memorandum attempts no more than to outline means of safeguarding against possible starvation or "a starved submission."

Detailed arrangements and their application involve an enormous amount of thought and work. In this work—at any rate in several aspects of it—the Chartered Surveyors' Institution may be in a position to help very considerably.